Arlington Headquarters Battalion
Arlington, Virginia

Engineering Field Division/Activity: EFACHES

Major Claimant: CMC

Size: 22 Acres

Funding to Date: $20,000

Estimated Funding to Complete: $0

Base Mission: Provides administrative, personnel and logistics support to active and retired Marine Corps personnel

Contaminants: PCBs

Number of Sites:

CERCLA:	1
RCRA Corrective Action:	0
RCRA UST:	0
Total Sites:	1

Relative Risk Ranking of Sites:

High:	0	Not Evaluated:	0
Medium:	0	Response Complete:	1
Low:	0	Total Sites:	1

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	1							
SI								
RI/FS								
RD								
RA	1							
IRA	1(1)							
RC	1							
Cumulative Response Complete	100%							

Arlington Service Center
Arlington, Virginia

Engineering Field Division/Activity: EFACHES

Major Claimant: CNO

Size: 23 Acres

Funding to Date: $2,784,000

Estimated Funding to Complete: $270,000

Base Mission: Provides DOD communications support

Contaminants: POLs

Number of Sites:

CERCLA:	0
RCRA Corrective Action:	0
RCRA UST:	3
Total Sites:	3

Relative Risk Ranking of Sites:

High:	0	Not Evaluated:	1
Medium:	1	Response Complete:	1
Low:	0	Total Sites:	3

PROGRESS AND PLANS

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	2	1						
INV		1						
CAP	1	1						
DES		1						
IMP			2					
IRA								
RC		1	1					1
Cumulative Response Complete		33%	67%					100%

Chesapeake Naval Security Group Activity Northwest
Chesapeake, Virginia

Engineering Field Division/Activity: LANTDIV

Major Claimant: COMNAVSECGRU

Size: 4,038 Acres

Funding to Date: $24,000

Estimated Funding to Complete: $2,234,000

Base Mission: Provides communications and intelligence support to the Atlantic Fleet

Contaminants: POLs

Number of Sites:

CERCLA:	0
RCRA Corrective Action:	0
RCRA UST:	4
Total Sites:	4

Relative Risk Ranking of Sites:

High:	1	Not Evaluated:	0
Medium:	0	Response Complete:	3
Low:	0	Total Sites:	4

PROGRESS AND PLANS

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	4							
INV								
CAP	4							
DES		1						
IMP								1
IRA								
RC	3							1
Cumulative Response Complete	75%							100%

Craney Island Fleet and Industrial Supply Center
Norfolk, Virginia

Engineering Field Division/Activity: LANTDIV

Major Claimant: COMNAVSUPSYSCOM

Size: 895 Acres

Funding to Date: $10,791,000

Estimated Funding to Complete: $5,786,000

Base Mission: Operates and maintains a primary fuel terminal; receives, stores and issues fuels

Contaminants: Heavy metals (cadmium, mercury), pesticides, POLs, phenols, volatile organic compounds

Number of Sites:

CERCLA:	13
RCRA Corrective Action:	0
RCRA UST:	5
Total Sites:	18

Relative Risk Ranking of Sites:

High:	6	Not Evaluated:	0
Medium:	4	Response Complete:	8
Low:	0	Total Sites:	18

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	12							
SI	6			3				
RI/FS		3	1					
RD	1	3		4				
RA	1		1	2	4			
IRA								
RC	6		1	2	4			
Cumulative Response Complete	46%		54%	69%	100%			

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	5							
INV								
CAP	4		1					
DES			1					
IMP		1				1		1
IRA								
RC	2					1		2
Cumulative Response Complete	40%					60%		100%

Dahlgren Naval Surface Warfare Center
Dahlgren, Virginia

Engineering Field Division/Activity: EFACHES

Major Claimant: COMNAVSEASYSCOM

Size: Main Site: 2,677 Acres; Explosive Experimental Area: 1,614 Acres

Funding to Date: $11,088,000

Estimated Funding to Complete: $91,482,000

Base Mission: Proofs and tests Department of the Navy ordnance

Contaminants: Cleaning solvents, explosive residues, heavy metals, low-level radioactive materials, mercury, PCBs, pesticides

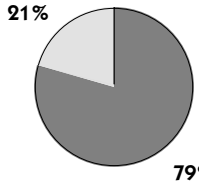
Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	58	High:	16	Not Evaluated:	24
RCRA Corrective Action:	0	Medium:	4	Response Complete:	12
RCRA UST:	0	Low:	2	Total Sites:	58
Total Sites:	58				

NPL

EXECUTIVE SUMMARY

Dahlgren Naval Surface Warfare Center (NSWC) is located in King George County, on the Virginia shore of the Potomac River, 28 miles east of Fredericksburg and 53 miles south of Washington, D.C. NSWC has carried out an extensive mission in the proof and testing of naval ordnance since 1918. Proof and testing have included work in the areas of guns of all sizes, aircraft bombs, rockets and projectiles. Limited work has been done with chemical and radiological warfare agents. A number of non-ordnance operations have been carried out, including metal plating, degreasing and metal treating, painting and carpentry, machining, metal trades, vehicle and locomotive maintenance, battery service, printing, electrical work, steam production, vehicle washing, water treatment, photography and pesticide mixing and application. Low levels radiological operations conducted included atomic weaponry development, use of depleted uranium in 20 mm rounds and use of thorium-magnesium in special weapons development. Current operations include pollution prevention technologies to prevent further contamination. The primary Areas of Concern (AOCs) that caused National Priorities List (NPL) placement, are mercury contamination at Hideaway Pond (Site 10), oil containing the chemical additive PCB from Transformer Draining (Site 19) and pesticides at the Pesticide Rinse Area (Site 25). Dahlgren NSWC is under a Federal Facility Agreement (FFA) with the EPA Region III and the Commonwealth of Virginia, which was signed in September 1994.

NSWC is surrounded by low-density rural residential and agricultural areas. NSWC is bounded on the north by Route 301 and on the east by the Potomac River. The Main Site is separated from the Explosive Experimental Area (EEA) by Upper Machodoc Creek, which drains the EEA. Both Gambo and Williams Creeks collect the surface runoff from the Main Site. All waterways drain to the Potomac River. Approximately 40 percent of the Main Site is composed of residential/developed areas. The northern and western portions of the site contain large blocks of mature forest. Forests in the central and eastern areas tend to be younger, with large areas of pine plantations. Over 60 percent of the EEA is hardwood and pine forest, with only eight percent of the area residential/developed. There are numerous marshes in the EEA. Three freshwater water bodies also exist on-site. Approximately 326 acres are wetlands. There are large wildlife populations in the forested areas and the wetlands. The main potential contaminant migration pathway is via surface water runoff. The groundwater aquifer is very deep and protected by impermeable layers.



Current Status Of Sites

Studies Underway	46
Cleanups Underway	0
Response Complete	12
TOTALS	58

A Restoration Advisory Board (RAB) was started in FY95. A Community Relations Plan (CRP) was updated in October 1995 and receives periodic updates. In FY91, an Administrative Record and an Information Repository were established at local libraries.

Currently, 46 sites are in a study phase. Ten sites are underway in Site Inspections (SIs), while eleven sites have Remedial Investigations/ Feasibility Studies (RI/FSs) ongoing. Eight sites are to receive FY96 funding for SIs. The remaining 17 sites are awaiting funding to complete the study phase. Response is complete at 12 sites.

Major successes in the cleanup program at NSWC include: removal of soil contaminated by the chemical additive PCB at Site 19; removal of petroleum contaminated soil at the Tar Tank Storage Area Solid Waste Management Unit (SWMU) #67; use of immunoassay field screening tests to reduce costs and obtain quick turnaround times and development of Master Work Plans to speed up review time and save money on work plans.

A Site Screening Process (SSP) was developed and initiated as part of the FFA. The SSP should help to streamline the study phase process by performing more flexible study investigations.

NSWC initiated a joint venture with the U.S. Naval Academy to perform a treatability study on two Depleted Uranium sites that contain contaminated soils. The treatability study is part of an overall effort to look into innovative technologies that can save money and reduce risks to the environment.

DAHLGREN NSWC
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - The major hydrological characteristic of NSWC is an artesian aquifer approximately 600 to 800 feet below the surface. In general, the impermeable nature of the surface geology minimizes potential downward migration of surface pollutants. Consequently, pollutant migration pathways are largely restricted to near surface migration and surface runoff. The site geology serves to minimize the possibility of contamination of the deep on-site aquifer that serves as a drinking water source for base residents and workers. Most of the Main Site falls into the Gambo Creek watershed. The remainder of the surface runoff drains into peripheral drainage swales which flow directly into Upper Machodoc Creek and eventually into the Potomac River. Surface runoff from the Explosive Experimental Area (EEA) will either drain into Black Marsh to the east or the Upper Machodoc Creek, which borders the west and northern sides. Three freshwater bodies exist on NSWC: Upper Gambo Creek, Hideaway Pond and Cooling Pond. Approximately 326 acres of NSWC are wetlands.

The U.S. Geological Survey (USGS) has performed hydrogeologic studies on the Main site and the EEA to better define the hydrology at the installation.

NATURAL RESOURCES - A large number of mammalian, avian and herpetofaunal species were observed or expected at NSWC. The only immediately evident area that may be potentially affected by contamination from waste disposal practices is the Hideaway Pond drainage area. Fish tissue samples indicate mercury levels exceeding EPA maximum contaminant limits. Investigations to identify the potential sources of mercury in Hideaway Pond have focused on Site 17, the 1400 Area Landfill. The Bald Eagle is the only known endangered species among the flora and fauna found at the activity.

RISK - A Baseline Risk Assessment, both ecological and human health, has been performed for Sites 2, 9, 10, 12, 17, 19, 25 and 29 following EPA guidance. The DOD's Relative Risk Ranking System has ranked 22 sites. Sixteen sites resulted in "high" risk levels primarily due to known soil and groundwater contamination and identified migration pathways to nearby wetlands and ecological resources. The Agency for Toxic Substance and Disease Register (ATSDR) performed a Site Scoping visit on 10 December 1992. This report was received on 19 May 1994.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - In October 1992, NSWC was placed on the National Priorities List (NPL) with a Hazard Ranking System (HRS) score of 50.26. Three sites specifically drove the listing: Hideaway Pond (Site 10), the Pesticide Rinse Area (Site 25) and the Transformer Draining Area (Site 19) due to the possibility of releases from these sites that could affect the Potomoc River, Gambo Creek, associated wetlands and local groundwater aquifers that are used for drinking water.

LEGAL AGREEMENTS - The Department of the Navy (DON), EPA and the Commonwealth of Virginia has negotiated the Federal Facility Agreement (FFA) which was signed in September 1994. A Site Management Plan (SMP), which is updated annually, contains the investigation and cleanup schedules for sites included in the FFA.

PARTNERING - The installation holds frequent meetings and conference calls with representatives of EPA and the Virginia Department of Environmental Quality and other regulatory agencies to prioritize sites and incorporate comments into the SMP.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was established in FY92. The TRC was converted to a Restoration Advisory Board (RAB) in October 1994. The RAB meets periodically to review project plans and progress of investigations and cleanup. As a result of these meetings, many suggestions from the community have been incorporated into the cleanup program.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was established in August 1992 and was updated in October 1995.

INFORMATION REPOSITORY - An Administrative Record was established at the NSWC General Library and an Information Repository at the Smoot Memorial Library in FY91.

DAHLGREN NSWC
HISTORICAL PROGRESS

FY83

Sites 1-36 - An Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA), identified 36 potentially contaminated sites in May 1983 at NSWC. All but 12 of the sites were recommended for further study.

FY86

Sites 9, 10, 12, 17, 19 and 25 - The Confirmation Study (CS), equivalent to a Site Inspection (SI), was completed.
Site 37 - A new site, Lead Contaminated Sand from an old firing range, was identified by the activity.

FY92

Sites 2, 9, 10, 12, 17, 19, 25, 29 and 37 - The Remedial Investigation/ Feasibility Study (RI/FS) was awarded.
Site 34 - A removal action involving soil and concrete sampling, excavation and disposal was completed in May 1992. No further action is anticipated at this site.

FY93

SWMUs and AOCs - During the SI phase, a RCRA Facility Assessment (RFA) was completed in December 1992 by EPA and identified over 100 Solid Waste Management Units (SWMUs). The Department of the Navy (DON) and EPA did an initial screening and six Areas of Concern (AOCs) and 31 SWMUs were added to the Installation Restoration Program (IRP). An RFA was completed in December 1992. However, all the AOCs and SWMUs were incorporated into the FFA for action under CERCLA.

FY94

Sites 19, 38, 48, and SWMUs 10, 18, 68 and 85 - Removal actions were initiated at Sites 19 and 36. Interim Remedial Actions/Remedial Actions (IRAs/RAs) were completed in FY94 including: a Tar Tank Storage Area (Site 48) containing petroleum contaminated soil was removed. Welding slag was removed from the ground at SWMU 10. A cover was placed on SWMU 18 (Incinerator Ash Dumpster). A waste drum was removed from SWMU 68 and contractor materials and debris was removed from SWMU 85. NFA is anticipated at these sites.

PROGRESS DURING FISCAL YEAR 1995

FY95

Sites 36 and 39 - Started an Engineering Evaluation/Cost Analysis (EE/ CA) and a joint venture with the U.S. Naval Academy to perform a treatability study on two Depleted Uranium sites (Sites 36 and 49) which contain soils contaminated with depleted uranium.

Sites 6, 21, 22, 31, 32, 45, 46, 50, 51 and 53 - The SIs were still underway and are expected to be completed in FY96.
Site 19 - Completed a removal action at the Transformer Draining Area contaminated with the chemical additive PCB. Field Screening immunoassay tests were used to determine the extent of PCB contamination and reduce laboratory and mobilization costs.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

Sites 6, 21, 22, 31, 32, 45, 46, 50, 51 and 53 - SIs are expected to be completed.
Sites 2, 9, 10, 12, 17, 19, 25 and 29 - RI/FSs are expected to be completed.
Sites 13, 20, 23, 37, 54-57 - SIs are expected to be funded.
Sites 6, 21, 22, 31, 32, 45, 46, 50, 51 and 53 - These sites are expected to be carried into Remedial Investigations (RIs) and removal actions are planned. The Ecological Assessment for Gambo Creek is expected to be completed.

FY97

Sites 2, 9, 10, 12, 17, 19, 25 and 29 - RI/FSs are expected to be completed.
Site 25 - A Benchscale Treatability Study for the Pesticide Rinse Area should be completed.
Sites 44 and 58 - RIs are to be completed.
Sites 2, 9, 10, 12, 17, 25 and 29 - Remedial Designs (RDs) are expected to be completed and Remedial Actions (RAs) are planned to begin.
Sites 13, 20, 23, 37 and 54-57 - These sites are expected to enter the RI phase and removal actions are planned.

DAHLGREN NSWC
PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	35							
SI	6		10	2	8			16
RI/FS				11	4	10		20
RD				1	7		11	25
RA				1	1	5	3	35
IRA	1(1)		2(2)					
RC	12		1	1	1	5	3	35
Cumulative Response Complete	21%		22%	24%	26%	34%	40%	100%

Dam Neck Fleet Combat Training Center Atlantic
Dam Neck, Virginia

Engineering Field Division/Activity: LANTDIV

Major Claimant: CNET

Size: 1,100 Acres

Funding to Date: $603,000

Estimated Funding to Complete: $100,000 (Long Term Monitoring)

Base Mission: Provides training in the operation, maintenance and employment of specified tactical combat direction and control systems typical to naval warfare; provides facilities, logistical maintenance and personnel support to tenant commands

Contaminants: Pesticides, heavy metals, POLs, paint, PCBs, solvents

Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	6	High:	0	Not Evaluated:	0
RCRA Corrective Action:	0	Medium:	0	Response Complete:	11
RCRA UST:	5	Low:	0	Total Sites:	11
Total Sites:	11				

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	6							
SI	6							
RI/FS	2							
RD								
RA								
IRA								
RC	6							
Cumulative Response Complete	100%							

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC								
INV	5							
CAP	2							
DES								
IMP								
IRA	1(1)							
RC	5							
Cumulative Response Complete	100%							

DRIVER NAVAL RADIO STATION
DRIVER, VIRGINIA

Engineering Field Division/Activity: LANTDIV

Major Claimant: COMNAVCOMTELCOM

Size: 597 Acres

Funding to Date: $4,669,000

Estimated Funding to Complete: $2,737,000

Base Mission: Provides radio transmitting services for administrative, operational and command control of fleet units and other DoD agencies in the Atlantic and Caribbean; maintains communication links from the Arctic to the Antarctic, from the Gulf of Mexico to the Indian Ocean

Contaminants: Pesticides, solvents, PCBs, refuse, POLs

Number of Sites:

CERCLA:	11
RCRA Corrective Action:	0
RCRA UST:	0
Total Sites:	11

Relative Risk Ranking of Sites:

High:	2	Not Evaluated:	0
Medium:	0	Response Complete:	9
Low:	0	Total Sites:	11

BRAC III

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	9	2						
SI	3	7	1					
RI/FS	2	1						
RD	1	1						
RA		1	1					
IRA	1(1)							
RC		9	2					
Cumulative Response Complete		82%	100%					

Little Creek Naval Amphibious Base
Little Creek, Virginia

Engineering Field Division/Activity: LANTDIV

Major Claimant: CINCLANTFLT

Size: 2,147 Acres

Funding to Date: $7,814,000

Estimated Funding to Complete: $23,526,000

Base Mission: Provides amphibious warfare support; on-base logistics facilities and related support facilities

Contaminants: Heavy metals, PCBs, pesticides, POLs, volatile organic compounds

Number of Sites:

CERCLA:	23
RCRA Corrective Action:	0
RCRA UST:	12
Total Sites:	35

Relative Risk Ranking of Sites:

High:	12	Not Evaluated:	6
Medium:	0	Response Complete:	16
Low:	1	Total Sites:	35

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	23							
SI	10	1						7
RI/FS			5	1			1	6
RD	1			3	1			7
RA		1	1			4		7
IRA		1(1)	2(2)					
RC	8	1	2			1		11
Cumulative Response Complete	35%	39%	48%			52%		100%

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	5							
INV	7							
CAP	3	1	2	1				
DES			2	2				
IMP	1		1					4
IRA			1(1)					4(4)
RC	7		1					4
Cumulative Response Complete	58%		67%					100%

Norfolk Naval Base
Norfolk, Virginia

Engineering Field Division/Activity: LANTDIV

Major Claimant: CINCLANTFLT

Size: 4,631 Acres

Funding to Date: $51,338,000

Estimated Funding to Complete: $46,456,000

Base Mission: Principal operating base of U.S. Atlantic fleet; headquarters; docks; Fleet and Industrial Supply Center, Naval Aviation Depot, Naval Air Station, Naval Station and Public Works Center

Contaminants: Acids, asbestos, ash, low-level radiation, paint, pesticides, POLs, PCBs, propellant, solvents, heavy metals

Number of Sites:

CERCLA:	25
RCRA Corrective Action:	8
RCRA UST:	19
Total Sites:	52

Relative Risk Ranking of Sites:

High:	13	Not Evaluated:	1
Medium:	12	Response Complete:	13
Low:	13	Total Sites:	52

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	18		1	1	1			
SI	10		4	1	1			
RI/FS	3		3	7	7	2	1	
RD	2	1	1	3	4	1	4	
RA	3		1	1	1		5	6
IRA	1(1)	1(1)			1(1)		1(1)	1(1)
RC	1	1	1	6	5		5	6
Cumulative Response Complete	4%	8%	12%	36%	56%		76%	100%

RCRA CA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
RFA						8		
RFI						8		
CMS							3	5
DES								8
CMI								8
IRA								5(6)
RC								8
Cumulative Response Complete								100%

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	18							
INV	5							
CAP	15							
DES	2	1						
IMP	4			4	2			
IRA	4(4)							1(1)
RC	11				1			7
Cumulative Response Complete	58%				63%			100%

Norfolk Naval Shipyard
Portsmouth, Virginia

Engineering Field Division/Activity: LANTDIV

Major Claimant: COMNAVSEASYSCOM

Size: 1,293 Acres

Funding to Date: $3,843,000

Estimated Funding to Complete: $37,911,000

Base Mission: Provides logistics support for ships and service craft; overhauls, repairs and outfits service craft and Navy vehicles; research, development, testing and evaluation of shipboard systems

Contaminants: Acetylene, acids, alkalines, cyanide, paint, POLs, sludge, solvents, volatile organic compounds

Number of Sites:

CERCLA:	19
RCRA Corrective Action:	0
RCRA UST:	7
Total Sites:	26

Relative Risk Ranking of Sites:

High:	7	Not Evaluated:	0
Medium:	1	Response Complete:	17
Low:	1	Total Sites:	26

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	19							
SI	8							
RI/FS				1	6			
RD					2	2	3	
RA					1	2	1	4
IRA					1(1)			
RC	11					1		7
Cumulative Response Complete	58%					63%		100%

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC								
INV	6							
CAP	3	3		1				
DES								
IMP								
IRA								
RC	3	3		1				
Cumulative Response Complete	43%	86%		100%				

Oceana Naval Air Station
Virginia Beach, Virginia

Engineering Field Division/Activity: LANTDIV

Major Claimant: CINCLANTFLT

Size: 6,000 Acres

Funding to Date: $9,136,000

Estimated Funding to Complete: $14,994,000

Base Mission: Maintains and operates facilities and provides services and materials to support Naval aviation as a master jet base

Contaminants: Asbestos, heavy metals, PCBs, pesticides, POLs, solvents, volatile organic compounds

Number of Sites:

CERCLA:	2
RCRA Corrective Action:	21
RCRA UST:	16
Total Sites:	39

Relative Risk Ranking of Sites:

High:	14	Not Evaluated:	0
Medium:	3	Response Complete:	21
Low:	1	Total Sites:	39

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	2							
SI	1							
RI/FS	2							
RD	1							
RA		1						
IRA								
RC	1							1
Cumulative Response Complete	50%							100%

RCRA CA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
RFA	21							
RFI								
CMS	12	1	7					
DES	4		5					
CMI		4		1	5			
IRA		1(1)		1(1)				
RC	9	4	2	1	5			
Cumulative Response Complete	43%	62%	71%	76%	100%			

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	12							
INV	2	1						
CAP	12	1	2					
DES	1	3	4	1				
IMP								9
IRA								2(2)
RC	6	1						9
Cumulative Response Complete	38%	44%						100%

PORTSMOUTH NAVAL MEDICAL COMMAND
PORTSMOUTH, VIRGINIA

Engineering Field Division/Activity: LANTDIV

Major Claimant: BUMED

Size: 109 Acres

Funding to Date: $100,000

Estimated Funding to Complete: $200,000

Base Mission: Provides general and clinical hospitalization services for active duty Navy and Marine Corps personnel

Contaminants: PCBs, ash, asbestos

Number of Sites:

CERCLA:	2
RCRA Corrective Action:	0
RCRA UST:	0
Total Sites:	2

Relative Risk Ranking of Sites:

High:	0	Not Evaluated:	0
Medium:	0	Response Complete:	1
Low:	1	Total Sites:	2

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	2							
SI	2							
RI/FS								
RD								
RA							1	
IRA		1(1)						
RC	1						1	
Cumulative Response Complete	50%						100%	

Quantico Marine Corps Combat Development Command
Quantico, Virginia

Engineering Field Division/Activity:	EFACHES
Major Claimant:	CMC
Size:	60,647 Acres
Funding to Date:	$21,825,000
Estimated Funding to Complete:	$94,113,000
Base Mission:	Supports research, development, testing and evaluation of military hardware and military training
Contaminants:	PCBs, pesticides, chlorinated solvents, phenols, heavy metals (chromium, lead), POLs

Number of Sites:		**Relative Risk Ranking of Sites:**			
CERCLA:	94	**High:**	27	**Not Evaluated:**	28
RCRA Corrective Action:	4	**Medium:**	43	**Response Complete:**	2
RCRA UST:	2	**Low:**	0	**Total Sites:**	100
Total Sites:	100				

NPL

EXECUTIVE SUMMARY

The Quantico Marine Corps Combat Development Command (MCCDC) is located approximately 35 miles south of Washington, DC. Its east boundary is the Potomac River, its south boundary is Tank and Aquia Creeks. Past operations included aviation maintenance, fire fighter training pit, battery salvage, painting, transformer salvage, vehicle maintenance, pest control, small arms firing range and general public works functions. The Old Landfill (Site 4) contains paint, petroleum products, the chemical additive PCBs and solvents. These contaminants can enter the groundwater or surface water and can migrate to adjacent wetlands and waterways. Several sites are underground storage tanks. Numerous sites are contaminated with heavy metals and pesticides. In general, the immediate groundwater and soil present an environmental risk, with the possibility of subsequent migration to wetlands, surface water and waterways. The Marine Corps has changed its operational processes to prevent further contamination.

MCCDC was listed on the National Priorities List (NPL) on 30 June 1994 with a Hazard Ranking System score of 50.00. The impetus was Site 4, an old landfill used to burn chemicals and the chemical additive PCB and dispose of the burned remnants.

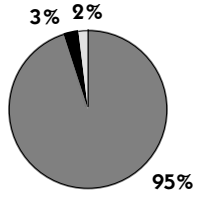
The greatest potential for contaminant migration is via surface water runoff or shallow groundwater flow, since part of the base sits on top of thin soil underlain by shallow, impermeable bedrock. The source of drinking water on the base and in the local communities is surface water. Any migration of contaminant into surface waters is of concern. The aquatic and wetland ecosystems could also be receptors of contaminants. Contamination of the Maryland aquifers is considered to be negligible because a large amount of dilution occurs between recharge and withdrawal zones.

A Technical Review Committee (TRC) was formed in 1989 and meets once every two months on the base. A Restoration Advisory Board (RAB) has not been created because Marine Corps guidance does not require it and there has been minimal community interest in establishing one. A Community Relations Plan (CRP) was completed in FY94. Two information repositories were established in FY92. A copy of the Administrative Record documents is contained in the Information Repository.

Ninety-five sites are in a study phase; three in the cleanup phase and two are considered Response Complete (RC). Seven of the 95 study phase sites currently have a Remedial Investigation/Feasibility Study (RI/FS) underway. The three sites with a cleanup underway, include two sites with a remedy in place and Operations and Maintenance (O&M) underway and one site with a Remedial Action (RA) in place. Two sites are considered RC as of FY84.

Interim Remedial Actions (IRAs) are underway at Site 4 (landfill capping) and UST 1 (groundwater treatment to remove petroleum, oil, lubricants). Expected completion is FY97 for both sites. Final Remedial Actions (FRAs) are underway at SWMU 26 (landfill capping), with an expected completion in FY97; SWMU 27 (waste removal - soil), expected completion is FY96 and SWMU 28 (waste removal - soil), expected completion is FY96.

Major improvements on the base are underway due to use of Navy CLEAN and RAC contracts. SWMU 26 capping is using ClayMax‘ to quickly cap the landfill as opposed to clay. A permeable barrier is used as an interim measure at Site 4 to reduce risk at a reasonable cost.



Current Status Of Sites

Studies Underway	95
Cleanups Underway	3
Response Complete	2
TOTALS	100

QUANTICO MCCDC RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - MCCDC is bounded on the east by the Potomac River and on the south by the Tank and Aquia Creeks. The annual average rainfall is 39 inches; August has the highest monthly average of 4.8 inches. Surface runoff is greatest in the spring. MCCDC has an abundant supply of surface waters (four major ponds and four reservoirs) with numerous associated drainage systems that eventually empty into the Potomac River. The base is situated astride two geomorphic provinces. One formation favors contaminant migration along surface water pathways. The other favors percolation of contaminants into the groundwater flow system. This path can impact groundwater users just east of the Potomac River. However, because of an exceptional amount of dilution between the recharge and withdraw zones, contaminants originating at MCCDC are expected to have negligible impact on the Maryland aquifers. Shallow groundwater flow adjacent to major drainage streams can discharge into the marshlands and estuaries along the Potomac.

NATURAL RESOURCES - About 80% of MCCDC are woodlands and these areas are used for training, recreation and timber production. Diverse wildlife can be found, including deer, turkeys, quail, fox, beaver, otter, mink and muskrat. Eight ponds and lakes create over 800 acres of aquatic ecosystems. The base includes over 500 acres of wetlands along the Chopawamsic Creek and Potomac River. In addition, there are four miles of managed trout streams, 12 miles of tidal shoreline and 445 acres of tidal water. Fresh water surface bodies support bass, trout, blue gill and catfish. Bald eagles have nested on the base and are the only endangered or threatened species listed.

RISK - Twenty-seven sites are ranked "High" relative risk in the DOD Relative Risk Ranking system. Two CERCLA sites are ranked high based on groundwater concerns. Surface runoff and groundwater contamination, including pesticides, can migrate into nearby wells, surface water and streams. Five CERCLA sites are ranked high based on soil contamination. Soil contamination includes the chemical additive PCBs, solvents, herbicides, petroleum products and lead. Contaminants can migrate into nearby wells and streams. Two of four RCRA sites are ranked "High," based on groundwater and soil impacts. Ecological receptors include the water migration pathway for both surface water and groundwater. Two of two RCRA UST sites have been categorized as "High," based on groundwater concerns. Workers at six CERCLA sites could be exposed to the contaminants. Potential receptors include wells, streams and wetlands. The primary threat from the RCRA and RCRA UST sites are the wetlands and groundwater. No sites are ranked "Low" and 43 sites are ranked "Medium" relative risk. Twenty-eight sites have not been evaluated, but will be ranked in the future.

RESTORATION PROJECTS - A removal action at Site 4 is implementing a barrier layer on the landfill to reduce infiltration and prevent direct exposure.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - MCCDC was proposed for the National Priorities list (NPL) on 10 May 1993 with a Hazard Ranking System (HRS) score of 50.00 and was listed on 31 May 1994. The NPL listing was primarily based on Site 4, Old Landfill used from 1920 - 1971. During this time, open burning was practiced. Estimates of deposited material include 10,000 gallons of paint, 6,000 gallons of paint thinner and industrial and residential wastes. The Defense Reutilization and Marketing Office deposited 120 gallons of the chemical additive PCB at the landfill from electrical transformer scrap operations. In addition, a rail tank car derailment in 1988 resulted in a release of 40,000 gallons of fuel oil #2; only 5,000 to 10,000 gallons were recovered. The landfill is located on the Potomac River.

LEGAL AGREEMENTS - A Federal Facilities Compliance Agreement was signed 8 November 1991. A Federal Facilities Agreement is in the final stages of negotiation.

PARTNERING - Engineering Field Activity Chesapeake and MCCDC are planning a partnership session with EPA Region III and the State of Virginia.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was formed in FY89. A Restoration Advisory Board (RAB) has not been established for MCCDC because of Marine Corps guidance does not require it and there has been minimal community concern. The TRC meets every two months on the base. Attendee backgrounds include professional, technical and business aspects. Four EPA and two State of Virginia representatives are members of the TRC Community members have been invited. Typically, meetings cover document reviews and discussions of alternative actions. Resolution is accomplished through a consensus of members. About 30 Installation Restoration (IR) Program and Base Realignment and Closure (BRAC) documents have been reviewed by the TRC. Minutes of the meeting are available at three local libraries for public viewing. Fact sheets have been distributed.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was completed in FY94.

INFORMATION REPOSITORY - Two information repositories were established in FY92. A copy of the Administrative Record documents is contained in the Information Repository.

QUANTICO MCCDC HISTORICAL PROGRESS

FY81

Site 18 - Completed Preliminary Assessment (PA).

FY82

Site 19 - Completed PA.

FY84

Sites - 1-5, 8-12 and 14-17 - Completed PA.
Site 16 - Listed Response Complete (RC).
UST 1 - Completed Initial Site Characterization (ISC).
SWMUs 26-28 - Completed RCRA Facility Assessment (RFA).

FY85

Site 1 - The Remedial Investigation/Feasibility Study (RI/FS) is underway. Expected completion FY97.

FY88

Sites 1, 4, 5 and 17-19 - Completed Site Inspection (SI).
Sites 4, 5 and 17-19 - RI/FS started. Estimated completion date FY98.
SWMUs 2-25 - Completed PA.
SWMUs 26 and 28 - Completed RCRA Facility Investigation (RFI).
SWMU 28 - Started and completed IRA (in-situ soil treatment). Activity performed Long Term Monitoring (LTM).

FY89

SWMU 29 - Completed RFA.

FY90

Site 4 - Completed IRA.
SWMU 29 - Completed RFI. The Corrective Measures Study (CMS) is underway. Expected completion FY97.

FY91

Site 5 - IRA (waste removal - soil w/ the chemical additive PCBs) completed.
Site 20 - Completed PA.
SWMU 27 - Completed RFI.

FY93

Site 20 - Completed SI.
UST 1 - Completed Investigation (INV) phase. Started IRA (groundwater treatment - petroleum products). Expected completion FY97.

FY94

Sites 1 - Completed IRA (Incineration).
Site 20 - Completed IRA (Site access control measures and drainage controls).
UST 2 - Completed ISC and IRA (waste removal - drums, tanks, bulk containers, contaminated w/ petroleum products).
SWMU 26 - Completed CMS.

PROGRESS DURING FISCAL YEAR 1995

FY95

UST 1 - Completed Corrective Action Plan (CAP) and the Design (DES) of the corrective measure is underway. Expected completion FY96.
UST 2 - CAP underway and completion expected.
SWMU 26 - Started FRA (capping of landfill with inert material, paint, solvent, unknown). Expected completion FY97. CMI underway. Completion expected FY96.
SWMUs 26-28 - Completed Design (DES).
SWMUs27-28 - Completed Corrective Measures Inspection (CMI). Started and completed the Final Remedial Action (FRA) (waste removal - soil w/ acid and blasting grit). Remedy is in place, and Operation and Maintenance (O&M) is underway. Activity is performing LTM.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY 96

Site 2 - Start and complete SI, RI/FS and RA.
Site 4 - Start IRA (Capping - paint, petroleum products, the chemical additive PCBs, solvent). Completion expected FY 97.
Site 5 - Start RD. Expected completion FY99.
Site 18 - Start and complete IRA (waste removal - soils, w/ petroleum products and heavy metals).
Site 19 - Start and complete IRA (waste removal - soil w/ heavy metals). Expected completion FY99.
Site 20 - Start RI/FS. Expected completion FY97.
UST 2 - Start IMP. Expected completion FY97.

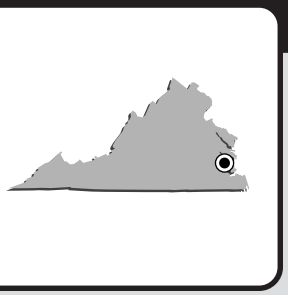
FY97

Sites 8-12 and 14-15 - Start SI. Expected completion FY98.
Site 20 - Start RD. Expected completion FY98.
Sites 21-30 - Start and complete PA.
UST 2 - IMP completion.
SWMU 1 - Start SI. Expected completion FY98.
SWMUs 30-71 - Start and complete PA.

QUANTICO MCCDC
PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	42				1	1		50
SI	7		1		2	6	1	26
RI/FS				1	5	2	1	34
RD					1	4	2	9
RA						1	2	39
IRA	4(5)			1(1)	1(1)	1(1)		1(1)
RC	2						2	90
Cumulative Response Complete	2%						4%	100%
RCRA CA	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
RFA	4							
RFI	4							
CMS	1			1				
DES		3						
CMI		2	1					1
IRA	1(1)							
RC				2				2
Cumulative Response Complete				50%				100%
UST	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
ISC	2							
INV	1							
CAP		1	1					
DES			1					
IMP				1	1			
IRA	1(1)			1(1)				
RC				1	1			
Cumulative Response Complete				50%	100%			

Williamsburg Fleet and Industrial Supply Center, Cheatham Annex
Williamsburg, Virginia



Engineering Field Division/Activity: LANTDIV

Major Claimant: COMNAVSUPSYSCOM

Size: 1,579 Acres

Funding to Date: $844,000

Estimated Funding to Complete: $4,295,000

Base Mission: Receiving, storing, packaging and shipping of materials to federal facilities on the East Coast and major distribution centers in Europe

Contaminants: Scrap metal, paint, POLs, PCBs, solvents, refuse

Number of Sites:

CERCLA:	12
RCRA Corrective Action:	0
RCRA UST:	0
Total Sites:	12

Relative Risk Ranking of Sites:

High:	0	**Not Evaluated:**	0
Medium:	1	**Response Complete:**	9
Low:	2	**Total Sites:**	12

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	12							
SI	9			3				
RI/FS	1							3
RD								3
RA	1							3
IRA						1(1)		
RC	9							3
Cumulative Response Complete	75%							100%

YORKTOWN FLEET AND INDUSTRIAL SUPPLY CENTER FUELS DIVISION
YORKTOWN, VIRGINIA

Engineering Field Division/Activity: LANTDIV

Major Claimant: COMNAVSUPSYSCOM

Size: 110 Acres

Funding to Date: $980,000

Estimated Funding to Complete: $25,152,000

Base Mission: Transfers and stores fuel oils

Contaminants: POLs, POL sludge, refuse

Number of Sites:

CERCLA:	19
RCRA Corrective Action:	0
RCRA UST:	2
Total Sites:	21

Relative Risk Ranking of Sites:

High:	1	Not Evaluated:	0
Medium:	0	Response Complete:	19
Low:	1	Total Sites:	21

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	19							
SI	19							
RI/FS	1							
RD	1							
RA		1						
IRA								
RC	18							1
Cumulative Response Complete	95%							100%

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC								
INV	2							
CAP	2							
DES			1					
IMP								1
IRA								
RC	1							1
Cumulative Response Complete	50%							100%

Yorktown Naval Weapons Station
Yorktown, Virginia

Engineering Field Division/Activity:	LANTDIV
Major Claimant:	COMNAVSEASYSCOM
Size:	10,624 Acres
Funding to Date:	$17,650,000
Estimated Funding to Complete:	$40,570,000
Base Mission:	Provides ordnance maintenance, modifications, production, loading/off-loading and storage for Atlantic Fleet
Contaminants:	Acids, asbestos, batteries, degreasers, explosives, heavy metals (cadium, lead, mercury, nickel), solvents, paint thinners, PCBs, varnishes, waste oil

Number of Sites:

CERCLA:	41
RCRA Corrective Action:	0
RCRA UST:	4
Total Sites:	45

Relative Risk Ranking of Sites:

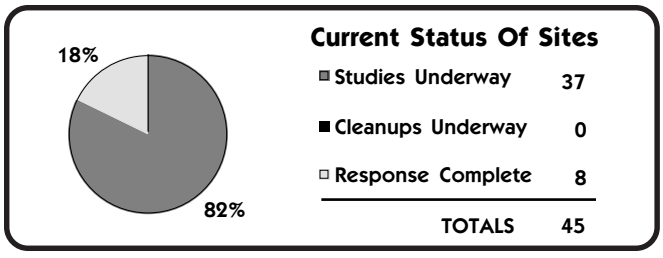
High:	25	**Not Evaluated:**	5
Medium:	6	**Response Complete:**	8
Low:	1	**Total Sites:**	45

NPL

EXECUTIVE SUMMARY

Yorktown Naval Weapons Station (NWS) is a 10,624 acre facility located on the Virginia Peninsula. It is near the historic village of Williamsburg, Virginia and is 30 miles northwest of Norfolk, Virginia. The NWS lies within two drainage basins. The York River Basin to the north, and the James River Basin to the south. The primary mission of the NWS is to provide ordnance, technical support and related services to sustain the war fighting capabilities of the armed forces in support of national military strategies. This site was originally named the US Mine Depot, and was commissioned on July 1, 1918 to support the laying of mines in the North Sea during World War I. In 1992, this facility was placed on the National Priority List (NPL) because 19 sites were identified as past disposal or storage areas for materials that may contain hazardous substances. These contaminants include acids, asbestos, explosives, cadmium, lead, mercury, nickel, paint thinners, solvents, varnishes, waste oil and the chemical additive PCB. There is a possibility of groundwater contamination. Surface water runoff is also a concern because of drainage into surrounding wetlands. The NWS is under a Federal Facility Agreement (FFA) with the EPA which was signed in September 1994.

The proximity of the NWS to two major tidal tributaries of Chesapeake Bay is an important influence on the natural environment of the activity. The Virginia Peninsula enjoys a moderate continental climate with mild winters and long, warm summers. Rain is well distributed throughout the year, with the heaviest rains occurring in July and August. The NWS is characterized by gently rolling terrain dissected by ravines and stream valleys. Most of the area slopes toward the York River to the north, with a few southern sections draining toward the James River. Because of the proximity of the rivers, this area contains a significant amount of wetlands and the accompanying ecosystems. Contaminant migration to both rivers, which are used for recreation, fishing and wildlife habitat, is a concern to the community. Contaminants may migrate from disposal sites by means of surface runoff to the creeks and rivers, or by infiltration to the groundwater aquifers.



A Restoration Advisory Board (RAB) was initiated in October 1994. This board has representatives from the NWS, federal and state regulating agencies, National Oceanic and Atmospheric Administration, US Fish and Wildlife Service, US National Park Service, the Chesapeake Bay Foundation, the Virginia Institute of Marine Science, the County of York, various officials from surrounding communities, and nine community members. A Community Relations Plan was completed, and a number of educational materials were made available to the community.

Currently, remedial actions that include free product recovery are ongoing at two Underground Storage Tank (UST) sites. Completion of a Remedial Investigation/Feasibility Study (RI/FS) at Site 16 and Solid Waste Management Unit (SWMU) 16 led to the signing of a No Further Action (NFA) Record of Decision (ROD). The NWS also completed eight removal actions at the following eight sites: Site 2, Site 9, SWMU 1, SWMU 2, SWMU 4, SWMU 5, SWMU 17, and SWMU 18. These Remedial Actions (RA's) provided erosion and sediment controls which included silt fencing, water discharge channels, geotextile fabric for road base and temporary waste storage areas.

In the future, Site Inspections (SIs) which are underway at 12 SWMU's will be completed by FY98. Twelve RI/FS activities, which are currently underway, will be completed by FY00. The NWS plans to begin SIs at eight sites by FY00, and begin RI/FS activities at ten sites by FY01. There are also plans to begin Remedial Designs (RDs) for 23 sites proceeding to the RA phase between FY98 and FY05.

The NWS used an innovative process to determine if samples of composite carbon zinc battery waste was hazardous. The test results reviewed by the Virginia Department of Environmental Quality determined the waste was not hazardous, thus saving over one million in disposal costs. In FY94, the installation completed a comprehensive Site Management Plan (SMP). This plan, together with frequent teleconferences between the installation and regulatory agencies have facilitated decision making and helped to accelerate the cleanup schedule.

YORKTOWN NWS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - The NWS is located on the Virginia Peninsula. It is bounded by the York River to the north, and the James River to the south. Essentially, this area is a large drainage basin. Surface and groundwater of the NWS and its surroundings constitute an important resource. Surface waters from the station flow through many wetlands to the York and James Rivers. Drainage of the facility is accomplished by means of storm sewers and natural drainage systems. Extensive wetlands are found on all of the creeks which drain the station, and also in some shoreline areas of the York River. The creeks are hydraulically connected to the uppermost groundwater system. The tidal reaches of the York River, including the vicinity of the NWS are classified as shellfish waters. The mouth of the York River off the NWS is also an important shipping channel. The York River poses the major flooding threat to the facility during hurricanes or severe northeast storms.

In the shallow aquifer system of York County, the Columbia aquifer and the Cornwallis Cave aquifer can be differentiated based on the presence of absence of artesian conditions. The shallow lithology at Yorktown consists of upper sand, a claysilt unit, basal gravel/shell, and sediment of the Pleistocene and Pliocane ages. Deposits range in thickness from 20 feet at the western end of the peninsula to approximately 150 feet at the seaward and in the vicinity of WPNSTA Yorktown. The sand and gravel/shell units are both water-bearing and are commonly separated by the clay-silt layer, which may function as a confining or semiconfining unit. Collectively, these units form the shallow aquifer system at WPNSTA Yorktown, and correspond to the Columbia aquifer, Cornwallis Cave aquifer, and the Cornwallis Cave confining unit, respectively.

In many locations, the Columbia unit is not saturated. This is because either the Cornwallis Cave confining unit is "leaky" (e.g., transmits water readily) or the confining unit is missing, where creeks and tributaries have eroded through the unit. This occurs at many locations throughout the vicinity of WPNSTA Yorktown.

The Columbia aquifer is recharged directly by precipitation. The Cornwallis Cave aquifer is recharged by infiltration from leakage through the clay-silt unit. Some exchange also takes place between surface water in the creeks and ponds and in the east-northeast toward the York River, but locally trends toward groundwater discharge zones and appears to coincide with surface streams. The top of the water table generally reflects the topography.

Data from monitoring wells installed throughout WPNSTA Yorktown as part of the Confirmation and RI Studies were used to assess the depth to groundwater within the York County shallow aquifer system. The groundwater levels for the summer of 1994 indicated depths generally less than 30 feet below ground surface (bgs) throughout the upland areas of WPNSTA Yorktown. At areas of WPNSTA Yorktown that are located close to surface water bodies, the depth to the groundwater was frequently less than five feet bgs. The groundwater flow direction within the shallow system is generally toward groundwater discharge zones coincident with surface drainage's and streams. Therefore, the water level elevations roughly reflect the surface topography. Groundwater levels have been measured at WPNSTA Yorktown during various time of the year. The general flow direction at the various sites has remained consistent during this time period.

The dominant source of domestic water supply for WPNSTA Yorktown and the surrounding community is from surface water reservoirs by the City of Newport News. However, individual homes also may obtain water from the shallow aquifer system (mainly the Yorktown-Eastover Aquifer) in portions of Charles City, New Kent, James City, and York Counties. The shallow aquifer system is comprised of the Columbia, Cornwallis Cave and Yorktown-Eastover Aquifers and associated confining units. Potable water sources from the Shallow-Aquifer System are drawn from the Columbia and Yorktown-Eastover Aquifers. The Cornwallis Cave Aquifer is not used as a potable water source due to its limited yields.

There are no drinking water wells at WPNSTA Yorktown; the coastal plain aquifer and other shallower aquifers are not used as a drinking water source. There are, however, five supply wells at WPNSTA Yorktown, located at Buildings 120, 352, 304, 28, and Gate 13. Due to the poor water quality, three wells, at Buildings 120, 352, and 304, have been decommissioned and capped; a fourth well at Building 28 was abandoned and filled with cement. The remaining well at Gate 13 is a newer well that supplies water to the toilet facilities which are part of the weigh station. Gate 13 is located at the western boundary of the Station, approximately 3.8 miles from Site 16. Bottled drinking water is supplied to the weigh station.

NATURAL RESOURCES - About 78% of the NWS is undeveloped, and predominantly wooded. Marshes comprise approximately 400 acres, while lakes account for 150 acres. The diversity of ecosystems within the station and its surroundings provide habitat for a wide variety of plants and animals. Vegetation includes loblolly and Virginia pines, Virginia creeper, briars and honeysuckle. Ferns are also found in many moist, shaded areas. Since the entire facility is fenced in, the wildlife exists in a carefully managed environment. The white-tail deer population, as well as wild turkey, quail, squirrel, rabbit, raccoon and possum populations are managed by the facility's natural resource personnel to prevent overpopulation and food shortages. The creeks and their associated wetlands are important as fish nursery areas. Oysters, blue crabs and hard and soft shell clams are found in the York River off-shore the NWS. This area is designated as a crab pot fishery. No Federal or State designated plant or animal species on the endangered or threatened list exist on the facility or nearby.

RISK - The NWS has 45 total sites for cleanup. Out of those, 25 are classified as High Relative Risk. These sites are classified this way primarily due to soil contamination which has migrated to the groundwater.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - Six sites identified in 1992 led to the placement of the NWS on the National Priority List (NPL) on 14 October 1992. All six of these sites are hydrologically connected to Chesapeake Bay.

LEGAL AGREEMENTS - The NWS is under a Federal Facility Agreement (FFA) with the EPA which was signed in September 1994. A Site Management Plan (SMP) was completed in 1994 and has helped to accelerate the cleanup schedule. The SMP is revised each year to reflect current schedules.

PARTNERING - The NWS initiated a joint program with the US Army Corps of Engineers Waterways Experiment Station in Vicksburg, Mississippi. Under this program, the Navy and the Waterways Experiment Station are conducting a treatability study for explosive-contaminated soils using two different bioremediation technologies.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - A Restoration Advisory Board (RAB) was initiated in October 1994. This board has representatives from the NWS, federal and state regulating agencies, National Oceanic and Atmospheric Administration, US Fish and Wildlife Service, US National Park Service, the Chesapeake Bay Foundation, the Virginia Institute of Marine Science, the County of York, various officials from surrounding communities, and nine community members.

COMMUNITY RELATIONS PLAN - A Community Relations Plan was completed, and a number of educational materials were made available to the community.

INFORMATION REPOSITORY - The NWS maintains four repositories. One is located at the facility and the other three are at local libraries. A copy of the Administrative Record (the official file) is included in the Repository.

YORKTOWN NWS
HISTORICAL PROGRESS

FY84

Sites 1-19 - An Initial Assessment Study (IAS), similar to a Preliminary Assessment (PA), was completed in July. A total of 19 potentially contaminated sites were identified. The IAS recommended 15 of the sites proceed to the Confirmation Study (CS).

FY86

Sites 1-9, 11, 12 and 16-19 - Field work for a CS, similar to a Site Inspection (SI), was started. Round 1 of sampling was completed in June 1986. Recommendations were made for a second round of sampling.

FY88

Sites 1-9, 11, 12 and 16-19 - Field work for the second round of CS sampling was completed in June 1988.

FY89

Sites 1-9, 11, 12 and 16-19 - The CS was completed for these sites. The CS was conducted in two rounds of sampling. Round 1 was completed in June 1986 and a second round of sampling was completed in June 1988. A draft report was prepared in February 1989.
Sites 10, 13, 14 and 15 - These sites were determined to require no further study and are considered Response Complete (RC).

FY91

Sites 1-9, 11, 12 and 16-19 - The Final CS report was released for these sites. This report summarized the findings of all previous studies for these sites and recommended that additional studies be conducted in a Remedial Investigation/Feasibility Study (RI/FS) phase.
Site 21 - This site was discovered in November 1990. It was a disposal area for batteries and drums. An SI was initiated to investigate the site.

FY92

Site 21 - The SI was completed and the site was recommended to proceed to the RI/FS phase.
Sites 1-9, 11, 12, 16-19 and 21 - Remedial Investigation (RI) Work Plans were completed for these sites and sent to the Technical Review Committee (TRC) for review in December 1991. The Work Plans were finalized in May 1992. RI field work started in April 1992. The RI included marine sampling of shellfish and fish in surface waters on the base.
SWMUs 1-21 - The EPA conducted two searches for potentially contaminated sites. First, the EPA Photographic Interpretation Center (EPIC) searched aerial photographs and found several potential sites. Second, the EPA conducted a RCRA Facility Assessment (RFA) as part of a RCRA Part B permit application evaluation, and identified 19 SWMUs. The SWMUs were recommended for further investigation in an SI.

FY93

Sites 1-9, 11, 12, 16-19 and 21 - The RI Report for the first round of RI sampling was completed in July. The majority of these sites moved into the Feasibility Study (FS) phase. Sites 6, 7 and 12 were recommended for a second round of RI sampling. Site 5 was recommended for no further study or action.
USTs 1-4 - The Initial Site Characterization (ISC) was completed.
USTs 1 and 2 - The Corrective Action Plan (CAP) was completed.

FY94

Site 2 - A removal action to remove debris and containers was started.
Site 4 - A removal action to remove old containers and other debris was completed.
Site 5 - The RI/FS was considered done and the site was considered RC.
Sites 16 and 21 - Removal actions were conducted to remove wastes and containers from the site.
SWMU 16 - The SI phase was completed.
USTs 3 and 4 - The CAP was completed and these two UST sites were recommended for no further study or action and were marked RC.

PROGRESS DURING FISCAL YEAR 1995

FY95

Sites 1-4, 6-9, 11, 12, 16-19, 21 and 22 - The RI/FS was still underway. Site 16 and SWMU 16 required No Further Action (NFA) after the removal action in 1994 and was marked RC.
Site 2 - The removal action started in FY94 was completed.
Site 9 - A removal action was completed to remove old containers and other debris from the site.
SWMUs 1, 6 and 7 - The SI phase was completed.
USTs 1 and 2 - The Implementation of Corrective Measures began and was completed for both sites. The Corrective Measures included free product removal and groundwater treatment.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

Sites 6, 7, 9, 12 and 19 - The RI/FS is expected to be completed for these sites.
SWMUs 1, 2, 6, 7, 17, 18 and 19 - The SI phase is expected to be completed.
SWMU 3 and 7 - A removal action will begin to remove fire training pits, an UST, mine casings and other debris.
Sites 6, 7 and 12 - The Remedial Design (RD) phase will be underway.
SWMUs 8, 11, 12 and 13 - The SI phase will be completed.

FY97

Sites 1 and 3 - The RI/FS is planned for completion.
Sites 6 and 7 - A removal action will begin using bioremediation.
Site 12 - Remedial Action to begin for this site.
SWMUs 3-5, 9, 10 and 14 - The SI phase will begin.

YORKTOWN NWS
PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	39							1
SI	20		7	5	6		1	
RI/FS	1	2	5	2	15		1	7
RD	1			3	5	8	2	6
RA	1		1		1	5	6	16
IRA	3(3)	6(6)				2(2)	2(2)	3(3)
RC	4	2		4	2	2	5	22
Cumulative Response Complete	10%	15%		24%	29%	34%	46%	100%
UST	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
ISC	4							
INV								
CAP	4							
DES								
IMP		2						
IRA								
RC	2							2
Cumulative Response Complete	50%							100%